



SEQUENCE LISTING

<110> Williams, Deryck J.
McLaird, Merry B.
Hresko, Michelle Coutu
Frevert, Anita M.
Worthington, Ronald E.
Kloek, Andrew P.
Davila-Aponte, Jennifer A.
Bradley, John D.
Xu, Siqun

<120> NEMATODE PHOSPHOETHANOLAMINE
N-METHYLTRANSFERASE-LIKE SEQUENCES

<130> 12557-011001

<140> US 10/602,268

<141> 2003-06-23

<150> US 60/390,490

<151> 2002-06-21

<160> 46

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 1786

<212> DNA

<213> Ascaris suum

<400> 1

gggtttaatt	acccaagttt	gagagaataa	aaggtgaata	atgaccgaag	caattcgacg	60
ctcttctttc	aaaaatttct	ggtcgaaatt	ttcgcatcgt	tgtgataata	cagtaatgat	120
gttgaataaa	agcgccgatg	aatttgaagc	cgatgatcgt	gcagatatta	tatcttcatt	180
acccgatcta	catggcaagg	atattgtcga	tattggcgct	ggaattggac	gtttcacgac	240
aattttcgca	catgatgcac	gtcatgtact	atcatgcgat	tttatcgaaa	gtttcatggc	300
aaaaaataaa	gaacggaatg	cgcatttctc	taatattctt	tatcaggttg	gcgatgcggt	360
acatttacaa	ctcgatccaa	acagtgtaga	ccttgtgttc	acgaactggc	tcatgatgta	420
cctcagcgat	gatgaagtta	ttcgctttct	tctcaacgca	ctccgatggc	ttcgtcctaa	480
cggctatttg	caccttcgag	agtcatgcag	ccaaccgtca	accgcacgag	ttggaggaac	540
gatgcataat	agtacagaga	taaatccaac	cagctatcga	ctatcctctg	agtatataaa	600
attgctaagg	aatattcggt	atcgtgaatt	agatggcaca	ttatttcgct	tcgaagtgca	660
ttgggcttgt	tcagtgccca	cttatatcgt	cgtgcaaaat	aattggcgct	aagttcattg	720
gttaacgcaa	aaagttcgat	gcaacgatga	tgcgataatg	tctatcgaac	accttctcgg	780
acattttagt	acactatgga	aggtggagca	acaaaagtgg	gatcggtacc	tcgacaatga	840
atcctattgc	tggactgatg	aggtgtttgg	ctatgcgtta	atgaaggaaa	cgattgagag	900
tatgcccgca	gtattggcat	ataatcctcg	caaattggcc	tatcatttgc	atataaatgc	960
gcacgcgatt	tctgagatgt	tacattgtaa	tgttgatagg	aatgtggaga	taaatgaatt	1020
tttctatcgg	acatcattaa	cgaaagcaaa	tcgcctcaaa	gatcaacgag	ttcgatttgg	1080
atggaatgct	acgcttgaat	cgtcgctgaa	ttattggaaa	gaacgtggtg	ctctcttcga	1140
tatttttatc	gccactgaat	ttttcaccga	tctcgatgaa	agtaccatcg	ataagctctc	1200
cgtggtatta	aaagcggatg	cacctctaatt	tctgctggag	ccatttgacg	aatcagctta	1260
tgatgagaaa	tacatcatga	agttgttatc	acgttatcaa	caaatttcta	tcgaggatat	1320
cactgagatg	tgacacagaag	cgattcataa	atatctaagc	gaaagagatt	tagagaataa	1380

tattggaaca	aaagtatgga	aattaataaa	agcgcatatg	tgattgaatt	tttacgaaaa	1440
aaacgacgac	gacgatgatt	cctatgaatg	tttttatctg	acgctgcaaa	cgatgaatat	1500
acgattgtca	taaattgaga	atatgagaat	attgtcggct	taatgcatat	attggcaaca	1560
tataaactgt	gtgttttata	aaaaaaaaa	aaaaaaagta	ctagtcgacg	cgtggccaag	1620
ggcgaattct	gcagatatcc	atcacactgg	cggccgctcg	agcatgcac	tagagggccc	1680
aattcgccct	atagtgagtc	gtattacaat	tcactggccg	tcgttttaca	acgtcgtgac	1740
tgggaaaacc	ctggcggttac	ccaacttaat	tcgccttgca	gcacat		1786

<210> 2

<211> 1669

<212> DNA

<213> *Haemonchus contortus*

<400> 2

ggttttaacc	cagtatctca	agagcaatga	cggctgaggt	gcgacgggat	tccttcaaga	60
cgttctggga	caagtactca	gataaaccgc	acactaatc	gatgatgctc	aaccagactg	120
cacaagatct	ggaagctagc	gatagagcag	atatcctctc	cagcctacct	cacctaacca	180
acaaagacgt	ggtcgatatt	ggcgctggaa	tcgggcgctt	cactactgtg	ctagcagaaa	240
ctgctcgatg	ggttctttca	acggatttca	tcgaatcggt	catcgaaaaa	aatcaagaac	300
gaaatgctca	catgggtaac	atcagttatc	aaataggaga	cgcagtcctat	ttgcaaattg	360
acgagaaaag	cgtggatctc	gtttttacga	attgggtgat	gatgtatctc	tccgatcgtg	420
aagtcattga	atttctgctg	aatgctatgc	gatgggtgag	agcggacgga	tacattcatc	480
tcagagaaaag	ctgctccgag	ccaagcacgg	gccgtctgaa	gaccgccaca	atgcactcag	540
ccgttgacgc	caaccaca	cattaccgtt	tctcatcgct	gtatatcaag	cttcttcgag	600
caatccgata	cggggacagt	gatggaaaaa	tgtggaaatt	tgatgtgcag	tggagctgct	660
cggtgccac	ctacatacgg	aggtgcaata	actggcgctc	agtgcattgg	ttgacgaaga	720
aggtaccggc	agttggcgac	gaagagactt	cagtcgacga	tttgctcaac	ttgttcagcc	780
agatctggcc	agccgaacaa	aagacgtggg	atgaaaaact	agacaatgaa	aaatacagtt	840
ggactgataa	gatattctcg	aatgcgatcg	atgatgaagt	ggtgccaaaag	aacagtaccg	900
cctatgtctt	cacaccaagg	caacgatccc	ccttcttgca	cgtcaactcg	caccttttgg	960
cagagaagtt	cacatgcaat	gtatggaatg	ttgaaacaaa	agagtatttg	tatcgtactt	1020
cgttgacgaa	ggcaaacaa	cagaaggacc	aacgagtgcg	cttcggttgg	aacgagtcct	1080
tgtcttcgcc	catcgactac	tggaaatcaga	gggacgcttc	atttgactgc	atggtagcaa	1140
ctgaacttct	cgcgacttgt	gatgatgaga	gcgtaaagag	tattgcgagc	attatgaaac	1200
cagaagcgaa	ggtggtgctc	ctcgaaccag	ttagcggaat	tgacgagacg	tccgttaggc	1260
agcgaatgac	tacttggtgg	ttcaaaaaca	ttaccatcgt	cgatgttaca	caggagtcct	1320
tgaacgccga	ggtttctttc	attaaggacc	acaacttgga	cgtcgaactc	tctggttgta	1380
attacctact	gatcaaggct	tcactttaat	gcaacatagt	aagggaacgga	tgatttcttt	1440
ttatacgtca	cttttatgaa	ataagccttt	ggacattgat	tacggtgttg	tgagattttt	1500
ctgctgcatt	tgtcatctgt	atggttttga	ttttactgaa	gttatttgct	caactcattt	1560
gaaattgtaa	aaaataaccc	ctcaatcgaa	gaaatttgta	ccggtgactt	aataaaaactt	1620
ttttctcgct	caaaaaaaaa	aaaaaaaaag	tactagtcga	cgcgtggcc		1669

<210> 3

<211> 1472

<212> DNA

<213> *Meloidogyne incognita*

<400> 3

gggtttaatt	acccaagttt	gagcaattga	atatatgcgg	atgcgactgg	agcacgagga	60
cactgacatg	gactggaggc	aaatttatca	ctccttttgg	aacaaatttt	ccgatagggc	120
tgacaataca	tccatgcttt	taaatgcgga	tgctgataaa	tttgaagctc	ttgacagagc	180
cgaaattatc	ggaatgttgc	cctcttttaa	aaataaattt	gttgtggata	ttggggcggg	240
tattggaaga	ttcacaacag	aatttgccaa	aaaggcaaga	gaagtggctc	caacagattt	300
tgtagctagc	tttatcgaga	aaaatcgggg	aacaaatata	gcctttaata	acattgaatg	360
gagagttggt	gatgctgtaa	gattagattt	tgaagagggg	agtattgata	tagtctttac	420
caattggctt	ttgatgtatt	tagtggatga	agaagttggt	caatttttga	ttaatgccat	480

taaatggctc	aggcctggcg	gttattttaca	tttgagagag	tcttgctctg	aacctagcag	540
caaaaaatct	aataattcgc	tacattccaa	ttcggatagt	atcaatccaa	ctaaatatcg	600
cttttcatcc	gcataatattc	aattgctcaa	atcaattaat	tttaaaagcg	gagatggaac	660
cgtttggggg	tttaaaatcc	actgggctag	ctctgttaat	gtttatatcc	aaaaaaatgc	720
aaattggaga	caagtgcatt	ggttagtaag	caaggttcct	aaaaaggaaa	aatttatgcc	780
aaatttgggt	acactgcttg	gagagaagt	gcctgaagag	cagaaggaat	gggacaataa	840
acttgacttg	gctttgaatg	agaatcagaa	tatcacctca	actctagcca	gttatctttt	900
atctagtggg	attggaacaa	attcagttat	acttgttttc	gacttgagaa	atagtgaata	960
tcagcccagt	attaatgttc	acacattggc	taacagatta	aattcaaata	tttgggtctgt	1020
ttccctcaat	cctttctgct	tccgtcattc	attaaccctt	gctaataata	accaagatcg	1080
acggattaga	cactcttggc	atgaggatat	tgaaagcgct	ttccactttt	tgggtgaaca	1140
aatatccggc	aaagagaaaa	atatcagcag	attatttgat	gtgattattg	gtattgggtt	1200
gttagaaaaa	attaaaaaaa	tgaaggacgc	tagcgagaaa	gttgagaaaa	tccttggccg	1260
ttatttggtt	agtattgaaa	caggcggaag	agatgatata	cgaaaggaaa	aaaagaatga	1320
ggacattgta	gaatatttcc	catcagaact	atttacaaaa	caaacaatag	aattcaaagc	1380
agataatgga	tttaatcagc	ttgattagaa	ttggaaaaag	agaaaaattg	tgaacaaaaa	1440
aaaaaaaaaa	aagtactagt	cgacgcgtgg	cc			1472

<210> 4

<211> 1580

<212> DNA

<213> Strongyloides stercoralis

<400> 4

tttataaaac	ccagtttgag	taccgttttt	attattttta	gatggagggt	gaaaatgata	60
gacagaattt	tcttgaatat	tggagacaat	ttggcaatat	agctaataatc	aatggtatga	120
tgcttaatgc	taatgcttct	ttaattgaga	aaaatgatag	gcatgatgta	tgtctattac	180
ttcctgattt	aaaaggaaaa	actgttttag	atgctgggtgc	tgggaattgga	cgtttttactg	240
ctgaacttgc	tgaaggggct	gaaaaagttt	atgcatcaga	ttttatttct	gaatatgtta	300
ctaaatttca	agaacttagt	gctgaagcgt	taaaaaatgg	aaaaattatt	gatgttacag	360
tagcagatgc	tacatgtctt	tcttatccag	agaatagtta	tttccttggt	tttactaatt	420
ggttgtttat	gtattttta	aataactgaat	gtgtacgttt	tactgtaaat	gcattaaaaat	480
ggttagaaga	aggtggatat	tttaaatata	gagaatcatg	ttctgaacca	tcaacaagaa	540
gagttggaaa	tagaaatgaa	acttctcttc	atgctgccgt	tcaatcaaat	ccaactgaat	600
atagattttc	atctgtttat	cttaaatata	ttgaagcagc	tagatacgtt	gattcaaata	660
atcaaaaatg	gaaattcgaa	atagaaattt	gtggttctat	tccaacatac	attttaaatg	720
gtaataactg	gagacaagta	cagttaattg	ctaaaaaagt	aaaagcagat	gataatgatg	780
ttgttttatc	ccaagatgag	ttgaaaaatt	taatgactaa	tgattggata	atggaacaaa	840
aaaagactga	ttctattggt	gatggtagag	tacaatattt	tgctgataaa	atttttgcta	900
atgaattatc	aaatattgat	atgactaata	ctgaatccat	ttcatcaata	tttgttttcc	960
aatcttcatt	taatccatgg	tacaaaagaa	ttttcccat	ttcttttagca	tcaaataaat	1020
attgccatgt	ctggacaaat	gagggtaatc	gtgaactttt	tagatgttca	ttactttcag	1080
ctaataagaa	aagaaatatt	ggaatgtttt	ttacctattc	aaaagacaat	gttttttaag	1140
ccttagatta	cgttaaaaaa	agaaactttt	tattaaacag	ttttctagct	attgactatt	1200
taaataatca	tgaagttaat	tttattgaat	catttaataa	tattgcttct	caagatgcta	1260
aaattctcct	tcttgaatca	ttttcaaatg	aggatgaaaa	aaatttaaaa	ttaagttaaac	1320
ttataagca	atacacagta	aagtgcgtaa	cagaaaaacgt	tcataatgaa	gttaaaaaatg	1380
tacatcaaga	tgaagaaatt	gtatgtgacg	ttacatcgaa	aaaatggatg	cttatcaatg	1440
taaaccatta	atatcattca	tcaagtaatg	ttatctaaca	acgtaatttt	ttttattgac	1500
tcttaaaatt	cattattttt	tttaattaaa	atattatttt	acaaaaaaaa	tggcttaata	1560
tttcttttta	ataaattaag					1580

<210> 5

<211> 1533

<212> DNA

<213> Ascaris suum

<400> 5

gggtttaatt	acccaagttt	gaggggtggtg	cagcgaacta	cgcagccata	aacggtgaga	60
tgcctgcggc	agagcgtgaa	ctaatacagtg	cattattcga	cgttacaccg	aaagatgctc	120
ttacaagtg	actcttggtc	acctctgccc	aatcagagga	aagcaattca	tacttggttg	180
cactctttga	ggacagagca	attaacgtaa	ccatcggtga	gcgtcttgag	ggattgcaaa	240
gcactcgagc	tgacgcata	gacgccatta	tcagcaataa	attgatcgtc	gagaactggt	300
taatcaataa	accatcagat	ctcgatacat	tcgtcgcatc	ggctctaaaa	gaagaagggtg	360
tactcatcgt	tcgtgaagac	ctaaatgggt	gttctgcgtg	tgagaagggtc	gctcagctaa	420
cgcattttct	tgatctgttt	cgaacaactc	tgaacggcgt	tacgattggc	ttcaaattct	480
attcactcaa	gcaagtcaat	gcctcaattc	ataccgaagg	aaactttctg	gatgtcttct	540
ggatattg	gaaagaatgt	ttcgaagcgc	tggacgagaa	ccaaaaaaca	aaaacctttc	600
gtgattttct	cgatactacg	caatacactg	acgagagcat	acgtgcatat	gaatggatct	660
tcggcgataa	cttcatcagt	ccgggcggtt	atgacgaaaa	cttagaagtt	ctgaagcgat	720
tcggtgatct	aaaaccggat	tgtaaaatgc	tcgacatcgg	tggtggggtc	ggtggagggtg	780
cccgccaggc	tgctagggaa	ttcggagcgc	tggttctcgg	tatggatatt	agtgcgaata	840
tgctttcaat	agcgatggat	cgcctacaga	atgagaaa	cactcgcgtt	cgttatcaaa	900
tatccgacgc	tctcgaatat	gagtttccag	ccaactcgtt	tgattacgtt	ttcagtcgtg	960
acggtttaca	tcataacgag	cgcacgcaca	tcgtaatg	aaagattttc	cactgggtga	1020
aacctggtgg	gaaagtgtc	atcacggtgt	atggcatggg	ccatgggaca	ttaagcgcga	1080
aattccaagc	ctatgtggaa	aagaggaaat	attttctgaa	gacactcgaa	gagatgggtg	1140
agataactga	agctgctgga	ttcgaaaatg	tgcaagggac	aaacctcacc	aagcgattcc	1200
gcgatatact	gctcgacgag	cggacaaaaa	cgctgaaccg	aaaaaacgaa	ttccttgaga	1260
aattcgatga	aggaacattc	aacagcctct	tgaacggatg	gaatgataag	atcgggttta	1320
tcgacgacga	taaccataat	tggaaacaga	tcttcgcaac	aaaaccactt	tagaagttcc	1380
tctttttttg	accggttgat	cgacgtcaac	agcagcgctt	gaacaacact	caactatgtc	1440
ttctactaaa	tgctgcaaat	tcttgcatgg	ggcagtgctg	tccgttcac	acttgacaggt	1500
tattaaaact	ttgtaaaagt	aaatatagct	tgt			1533

<210> 6

<211> 1534

<212> DNA

<213> Meloidogyne javanica

<400> 6

gggtttaatt	acccaagttt	gagatttttt	tttcaaaaaa	ttttaaaata	ataaaatgag	60
tgcattatct	tgtgaattag	cttatgcact	tcaaaatcat	ccaaatgcac	ccaaaaatgg	120
cgaaactggt	ctcttattaa	ttaacgatca	agatgttaat	gaaaggaatt	taaattctga	180
tctaagaaat	ttattcgaag	ataaatttaa	tttgaggag	atggatattg	gagagtgtat	240
aaatatatca	gaacgttttag	ataaagaaga	taatgacaac	gaagaagaga	atttagaaac	300
acgttttgat	gctgctat	gctctaattt	atttattgga	caaggaattg	taaatgaccg	360
tcatcgtatt	gctcaagtat	taggattact	tcttcgttta	atacggacag	atggagttgt	420
aattattaga	gaaaatctaa	agcaatgggg	ttctcgttca	attgctgatt	taactaaatt	480
tcttgatgtt	tttgcttttc	gaaaacaaca	aaataatcaa	aaacaacaac	aaacacttgg	540
atttaatttt	tatggaatga	gccaagtaca	ggacagcatt	tatgcacatt	ctaattttct	600
tgacgttttt	tggagcttaa	caacagctat	tgaagttaga	ttatatgatg	ataaattagc	660
tacttttagg	gaatttttgg	ataaaacaca	gtatactgag	gacaacgttg	ctagttagga	720
gtggatattt	gggacagatt	ttatcagccc	agggtggagt	aatgaaaata	gaagagtact	780
aaaatatttc	cgtcattttac	gtccaggaca	acaaatgctt	gatattgggt	ttggaattgg	840
tggaggagct	agacaagctg	ctaggggagt	tggtcttcaa	gtacttggtt	gtgatctttc	900
ttcaaataatg	attcaacatg	cttttgatcg	taatcaacgt	gacaaaagatc	atcgtgttga	960
atatcaaatt	gctgatgcta	tggtttatcg	ttatgaatct	aatgcttttg	atattgtatt	1020
tagtagagat	tgtattcaac	atattaaaga	tacaaaaaga	ttatttagaa	atatttatac	1080
ttggcttaaa	ccaggtggac	aagtacttgt	tacaatgtat	gggaaaggac	atggagtctc	1140
ctcgccaaaa	tttcatgaat	atgttcgtaa	acggcaatat	gcactaaaaa	cttagaaga	1200
atatagagaa	attgctcata	atgttggttt	aacaactatt	tacacagaaa	atatgactaa	1260
acgtttgaga	gaaatttttag	taattgaacg	tgatagagca	gttgaaaata	aagaagaatt	1320
tattcaaaaa	tttagtgaaa	aactttattc	aaaattaatt	gagggttggg	cagataaatt	1380

```

acaatttatt gatgaagata accaaaattg gttgttactt cgtgcggaga aaccggtgca 1440
tccgcatgct tatttaactg aagctggagc ttaaaacaaa ttatttaaga caagaaaata 1500
aagagaagaa aatTTTTTTT atTTTTTTT atca 1534

```

<210> 7

<211> 460

<212> PRT

<213> Ascaris suum

<400> 7

```

Met Thr Glu Ala Ile Arg Arg Ser Ser Phe Lys Asn Phe Trp Ser Lys
 1          5          10          15
Phe Ser His Arg Cys Asp Asn Thr Val Met Met Leu Asn Lys Ser Ala
          20          25          30
Asp Glu Phe Glu Ala Asp Asp Arg Ala Asp Ile Ile Ser Ser Leu Pro
          35          40          45
Asp Leu His Gly Lys Asp Ile Val Asp Ile Gly Ala Gly Ile Gly Arg
          50          55          60
Phe Thr Thr Ile Phe Ala His Asp Ala Arg His Val Leu Ser Cys Asp
65          70          75          80
Phe Ile Glu Ser Phe Met Ala Lys Asn Lys Glu Arg Asn Ala His Phe
          85          90          95
Ser Asn Ile Ser Tyr Gln Val Gly Asp Ala Val His Leu Gln Leu Asp
          100          105          110
Pro Asn Ser Val Asp Leu Val Phe Thr Asn Trp Leu Met Met Tyr Leu
          115          120          125
Ser Asp Asp Glu Val Ile Arg Phe Leu Leu Asn Ala Leu Arg Trp Leu
          130          135          140
Arg Pro Asn Gly Tyr Leu His Leu Arg Glu Ser Cys Ser Gln Pro Ser
145          150          155          160
Thr Ala Arg Val Gly Gly Thr Met His Asn Ser Thr Glu Ile Asn Pro
          165          170          175
Thr Ser Tyr Arg Leu Ser Ser Glu Tyr Ile Lys Leu Leu Arg Asn Ile
          180          185          190
Arg Tyr Arg Glu Leu Asp Gly Thr Leu Phe Arg Phe Glu Val His Trp
          195          200          205
Ala Cys Ser Val Pro Thr Tyr Ile Val Val Gln Asn Asn Trp Arg Gln
          210          215          220
Val His Trp Leu Thr Gln Lys Val Arg Cys Asn Asp Asp Ala Ile Met
225          230          235          240
Ser Ile Glu His Leu Leu Gly His Phe Ser Thr Leu Trp Lys Val Glu
          245          250          255
Gln Gln Lys Trp Asp Arg Tyr Leu Asp Asn Glu Ser Tyr Cys Trp Thr
          260          265          270
Asp Glu Val Phe Gly Tyr Ala Leu Met Lys Glu Thr Ile Glu Ser Met
          275          280          285
Pro Ala Val Leu Ala Tyr Asn Pro Arg Lys Leu Ala Tyr His Leu His
          290          295          300
Ile Asn Ala His Arg Ile Ser Glu Met Leu His Cys Asn Val Val Trp
305          310          315          320
Asn Val Glu Ile Asn Glu Phe Phe Tyr Arg Thr Ser Leu Thr Lys Ala
          325          330          335
Asn Arg Leu Lys Asp Gln Arg Val Arg Phe Gly Trp Asn Ala Thr Leu
          340          345          350
Glu Ser Ser Leu Asn Tyr Trp Lys Glu Arg Gly Ala Leu Phe Asp Ile
          355          360          365
Phe Ile Ala Thr Glu Phe Phe Thr Asp Leu Asp Glu Ser Thr Ile Asp

```

370		375		380
Lys Leu Ser Val Val	Leu Lys Ala Asp Ala	Pro Leu Ile Leu Leu Glu		
385	390	395		400
Pro Phe Asp Glu Ser	Ala Tyr Asp Glu Lys Tyr	Ile Met Lys Leu Leu		
	405	410		415
Ser Arg Tyr Gln Gln	Ile Ser Ile Glu Asp	Ile Thr Glu Met Cys Thr		
	420	425		430
Glu Ala Ile His Lys	Tyr Leu Ser Glu Arg	Asp Leu Glu Asn Asn Ile		
	435	440		445
Gly Thr Lys Val Trp	Lys Leu Ile Lys Ala	His Met		
450	455	460		

<210> 8

<211> 460

<212> PRT

<213> Haemonchus contortus

<400> 8

Met Thr Ala Glu Val	Arg Arg Asp Ser	Phe Lys Thr Phe	Trp Asp Lys
1	5	10	15
Tyr Ser Asp Lys Pro	Asp Thr Asn Ser	Met Met Leu Asn	Gln Thr Ala
	20	25	30
Gln Asp Leu Glu Ala	Ser Asp Arg Ala	Asp Ile Leu Ser	Ser Leu Pro
	35	40	45
His Leu Thr Asn Lys	Asp Val Val Asp	Ile Gly Ala Gly	Ile Gly Arg
	50	55	60
Phe Thr Thr Val Leu	Ala Glu Thr Ala	Arg Trp Val Leu	Ser Thr Asp
65	70	75	80
Phe Ile Glu Ser Phe	Ile Glu Lys Asn	Gln Glu Arg Asn	Ala His Met
	85	90	95
Gly Asn Ile Ser Tyr	Gln Ile Gly Asp	Ala Val His Leu	Gln Met Asp
	100	105	110
Glu Lys Ser Val Asp	Leu Val Phe Thr	Asn Trp Leu Met	Met Tyr Leu
	115	120	125
Ser Asp Arg Glu Val	Ile Glu Phe Leu	Leu Asn Ala Met	Arg Trp Leu
	130	135	140
Arg Ala Asp Gly Tyr	Ile His Leu Arg	Glu Ser Cys Ser	Glu Pro Ser
145	150	155	160
Thr Gly Arg Leu Lys	Thr Ala Thr Met	His Ser Ala Val	Asp Ala Asn
	165	170	175
Pro Thr His Tyr Arg	Phe Ser Ser Leu	Tyr Ile Lys Leu	Leu Arg Ala
	180	185	190
Ile Arg Tyr Gly Asp	Ser Asp Gly Lys	Met Trp Lys Phe	Asp Val Gln
	195	200	205
Trp Ser Cys Ser Val	Pro Thr Tyr Ile	Arg Arg Cys Asn	Asn Trp Arg
	210	215	220
Gln Val His Trp Leu	Thr Lys Lys Val	Pro Ala Val Gly	Asp Glu Glu
225	230	235	240
Thr Ser Val Asp Asp	Leu Leu Asn Leu	Phe Ser Gln Ile	Trp Pro Ala
	245	250	255
Glu Gln Lys Thr Trp	Asp Glu Lys Leu	Asp Asn Glu Lys	Tyr Ser Trp
	260	265	270
Thr Asp Lys Ile Phe	Ser Asn Ala Ile	Asp Asp Glu Val	Val Pro Lys
	275	280	285
Asn Ser Thr Ala Tyr	Val Phe Thr Pro	Arg Gln Arg Ser	Pro Phe Leu
	290	295	300
His Val Asn Ser His	Leu Leu Ala Glu	Lys Phe Thr Cys	Asn Val Trp

305					310					315				320	
Asn	Val	Glu	Thr	Lys	Glu	Tyr	Leu	Tyr	Arg	Thr	Ser	Leu	Thr	Lys	Ala
				325					330					335	
Asn	Asn	Gln	Lys	Asp	Gln	Arg	Val	Arg	Phe	Gly	Trp	Asn	Glu	Ser	Leu
			340					345					350		
Ser	Ser	Pro	Ile	Asp	Tyr	Trp	Asn	Gln	Arg	Asp	Ala	Ser	Phe	Asp	Cys
		355					360					365			
Met	Val	Ala	Thr	Glu	Leu	Leu	Ala	Thr	Cys	Asp	Asp	Glu	Ser	Val	Lys
	370					375					380				
Ser	Ile	Ala	Ser	Ile	Met	Lys	Pro	Glu	Ala	Lys	Val	Val	Leu	Leu	Glu
385					390					395					400
Pro	Val	Ser	Gly	Ile	Asp	Glu	Thr	Ser	Val	Arg	Gln	Arg	Met	Thr	Thr
				405					410					415	
Cys	Gly	Phe	Lys	Asn	Ile	Thr	Ile	Val	Asp	Val	Thr	Gln	Glu	Ser	Leu
			420					425					430		
Asn	Ala	Glu	Val	Ser	Phe	Ile	Lys	Asp	His	Asn	Leu	Asp	Val	Glu	Leu
	435						440				445				
Ser	Gly	Cys	Asn	Tyr	Leu	Leu	Ile	Lys	Ala	Ser	Leu				
	450					455					460				

<210> 9

<211> 457

<212> PRT

<213> Meloidogyne incognita

<400> 9

Met	Arg	Met	Arg	Leu	Glu	His	Glu	Asp	Thr	Asp	Met	Asp	Trp	Arg	Gln
1				5					10					15	
Ile	Tyr	His	Ser	Phe	Trp	Asn	Lys	Phe	Ser	Asp	Arg	Ala	Asp	Asn	Thr
			20					25					30		
Ser	Met	Leu	Leu	Asn	Ala	Asp	Ala	Asp	Lys	Phe	Glu	Ala	Leu	Asp	Arg
		35					40					45			
Ala	Glu	Ile	Ile	Gly	Met	Leu	Pro	Ser	Phe	Lys	Asn	Lys	Phe	Val	Val
	50					55					60				
Asp	Ile	Gly	Ala	Gly	Ile	Gly	Arg	Phe	Thr	Thr	Glu	Phe	Ala	Lys	Lys
65					70					75					80
Ala	Arg	Glu	Val	Val	Ser	Thr	Asp	Phe	Val	Ala	Ser	Phe	Ile	Glu	Lys
				85					90					95	
Asn	Arg	Glu	Thr	Asn	Ile	Ala	Phe	Asn	Asn	Ile	Glu	Trp	Arg	Val	Gly
			100					105					110		
Asp	Ala	Val	Arg	Leu	Asp	Phe	Glu	Glu	Gly	Ser	Ile	Asp	Ile	Val	Phe
		115					120					125			
Thr	Asn	Trp	Leu	Leu	Met	Tyr	Leu	Val	Asp	Glu	Glu	Val	Val	Gln	Phe
	130					135					140				
Leu	Ile	Asn	Ala	Ile	Lys	Trp	Leu	Arg	Pro	Gly	Gly	Tyr	Leu	His	Leu
145					150					155					160
Arg	Glu	Ser	Cys	Ser	Glu	Pro	Ser	Ser	Lys	Lys	Ser	Asn	Asn	Ser	Leu
			165						170					175	
His	Ser	Asn	Ser	Asp	Ser	Ile	Asn	Pro	Thr	Lys	Tyr	Arg	Phe	Ser	Ser
		180					185						190		
Ala	Tyr	Ile	Gln	Leu	Leu	Lys	Ser	Ile	Asn	Phe	Lys	Ser	Gly	Asp	Gly
		195					200						205		
Thr	Val	Trp	Gly	Phe	Lys	Ile	His	Trp	Ala	Ser	Ser	Val	Asn	Val	Tyr
	210					215					220				
Ile	Gln	Lys	Asn	Ala	Asn	Trp	Arg	Gln	Val	His	Trp	Leu	Val	Ser	Lys
225					230					235					240
Val	Pro	Lys	Lys	Glu	Lys	Phe	Met	Pro	Asn	Leu	Gly	Thr	Leu	Leu	Gly

				245				250					255				
Glu	Lys	Trp	Pro	Glu	Glu	Gln	Lys	Glu	Trp	Asp	Asn	Lys	Leu	Asp	Leu		
			260					265					270				
Ala	Leu	Asn	Glu	Asn	Gln	Asn	Ile	Thr	Ser	Thr	Leu	Ala	Ser	Tyr	Leu		
		275					280					285					
Leu	Ser	Ser	Gly	Ile	Gly	Thr	Asn	Ser	Val	Ile	Leu	Val	Phe	Asp	Leu		
	290					295					300						
Arg	Asn	Ser	Glu	Asn	Gln	Pro	Ser	Ile	Asn	Val	His	Thr	Leu	Ala	Asn		
305					310					315					320		
Arg	Leu	Asn	Ser	Asn	Ile	Trp	Ser	Val	Ser	Leu	Asn	Pro	Phe	Cys	Phe		
			325					330					335				
Arg	His	Ser	Leu	Thr	Leu	Ala	Asn	Asn	Asn	Gln	Asp	Arg	Arg	Ile	Arg		
		340						345				350					
His	Ser	Trp	His	Glu	Asp	Ile	Glu	Ser	Ala	Phe	His	Phe	Leu	Gly	Glu		
	355					360				365							
Gln	Ile	Ser	Gly	Lys	Glu	Lys	Asn	Ile	Ser	Arg	Leu	Phe	Asp	Val	Ile		
	370					375				380							
Ile	Gly	Ile	Gly	Leu	Leu	Glu	Lys	Ile	Lys	Lys	Met	Lys	Asp	Ala	Ser		
385					390					395				400			
Glu	Lys	Val	Glu	Lys	Ile	Leu	Gly	Arg	Tyr	Leu	Leu	Ser	Ile	Glu	Thr		
			405					410					415				
Gly	Glu	Gly	Asp	Asp	Ile	Arg	Lys	Glu	Lys	Lys	Asn	Glu	Asp	Ile	Val		
		420					425					430					
Glu	Tyr	Phe	Pro	Ser	Glu	Leu	Phe	Thr	Lys	Gln	Thr	Ile	Glu	Phe	Lys		
	435					440					445						
Ala	Asp	Asn	Gly	Phe	Asn	Gln	Leu	Asp									
	450					455											

<210> 10

<211> 469

<212> PRT

<213> Strongyloides stercoralis

<400> 10

Met	Glu	Gly	Glu	Asn	Asp	Arg	Gln	Asn	Phe	Leu	Glu	Tyr	Trp	Arg	Gln		
1				5				10						15			
Phe	Gly	Asn	Ile	Ala	Asn	Ile	Asn	Gly	Met	Met	Leu	Asn	Ala	Asn	Ala		
		20					25					30					
Ser	Leu	Ile	Glu	Lys	Asn	Asp	Arg	His	Asp	Val	Cys	Leu	Leu	Leu	Pro		
	35					40					45						
Asp	Leu	Lys	Gly	Lys	Thr	Val	Leu	Asp	Ala	Gly	Ala	Gly	Ile	Gly	Arg		
	50				55					60							
Phe	Thr	Ala	Glu	Leu	Ala	Glu	Arg	Ala	Glu	Lys	Val	Tyr	Ala	Ser	Asp		
65				70					75					80			
Phe	Ile	Ser	Glu	Tyr	Val	Thr	Lys	Leu	Gln	Glu	Leu	Ser	Ala	Glu	Ala		
			85				90						95				
Leu	Lys	Asn	Gly	Lys	Ile	Ile	Asp	Val	Thr	Val	Ala	Asp	Ala	Thr	Cys		
		100					105					110					
Leu	Ser	Tyr	Pro	Glu	Asn	Ser	Tyr	Phe	Leu	Val	Phe	Thr	Asn	Trp	Leu		
	115					120					125						
Phe	Met	Tyr	Phe	Asn	Asn	Thr	Glu	Cys	Val	Arg	Phe	Thr	Val	Asn	Ala		
	130				135					140							
Leu	Lys	Trp	Leu	Glu	Glu	Gly	Gly	Tyr	Phe	Lys	Leu	Arg	Glu	Ser	Cys		
145				150				155					160				
Ser	Glu	Pro	Ser	Thr	Arg	Arg	Val	Gly	Asn	Arg	Asn	Glu	Thr	Ser	Leu		
		165				170					175						
His	Ala	Ala	Val	Gln	Ser	Asn	Pro	Thr	Glu	Tyr	Arg	Phe	Ser	Ser	Val		

[illegible]

```
<210> 11
<211> 437
<212> PRT
<213> Ascaris suum
```

<400>	11														
Met	Pro	Ala	Ala	Glu	Arg	Glu	Leu	Ile	Ser	Ala	Leu	Phe	Asp	Val	Thr
1				5					10					15	
Pro	Lys	Asp	Ala	Leu	Thr	Ser	Val	Leu	Leu	Val	Thr	Ser	Ala	Gln	Ser
			20					25					30		
Glu	Glu	Ser	Asn	Ser	Ser	Leu	Val	Ala	Leu	Phe	Glu	Asp	Arg	Ala	Ile
			35				40					45			
Asn	Val	Thr	Ile	Val	Glu	Arg	Leu	Glu	Gly	Leu	Gln	Ser	Thr	Arg	Ala
	50					55					60				
Asp	Ala	Tyr	Asp	Ala	Ile	Ser	Asn	Lys	Leu	Ile	Val	Glu	Asn	Cys	
65					70					75				80	
Leu	Ile	Asn	Lys	Pro	Ser	Asp	Leu	Asp	Thr	Phe	Val	Ala	Ser	Ala	Leu
				85					90					95	
Lys	Glu	Glu	Gly	Val	Leu	Ile	Val	Arg	Glu	Asp	Leu	Asn	Gly	Cys	Ser

			100					105					110				
Ala	Cys	Glu	Lys	Val	Ala	Gln	Leu	Thr	His	Phe	Phe	Asp	Leu	Phe	Arg		
		115					120					125					
Thr	Thr	Leu	Asn	Gly	Val	Thr	Ile	Gly	Phe	Lys	Phe	Tyr	Ser	Leu	Lys		
		130				135					140						
Gln	Val	Asn	Ala	Ser	Ile	His	Thr	Glu	Gly	Asn	Phe	Leu	Asp	Val	Phe		
145					150					155					160		
Trp	Ile	Leu	Arg	Lys	Glu	Cys	Phe	Glu	Ala	Leu	Asp	Glu	Asn	Gln	Lys		
				165				170						175			
Thr	Lys	Thr	Phe	Arg	Asp	Phe	Leu	Asp	Thr	Thr	Gln	Tyr	Thr	Asp	Glu		
			180					185						190			
Ser	Ile	Arg	Ala	Tyr	Glu	Trp	Ile	Phe	Gly	Asp	Asn	Phe	Ile	Ser	Pro		
		195					200					205					
Gly	Gly	Tyr	Asp	Glu	Asn	Leu	Glu	Val	Leu	Lys	Arg	Phe	Gly	Asp	Leu		
		210				215					220						
Lys	Pro	Asp	Cys	Lys	Met	Leu	Asp	Ile	Gly	Val	Gly	Ile	Gly	Gly	Gly		
225					230					235					240		
Ala	Arg	Gln	Ala	Ala	Arg	Glu	Phe	Gly	Ala	Leu	Val	Leu	Gly	Met	Asp		
				245				250						255			
Ile	Ser	Ala	Asn	Met	Leu	Ser	Ile	Ala	Met	Asp	Arg	Leu	Gln	Asn	Glu		
			260					265					270				
Lys	Asp	Thr	Arg	Val	Arg	Tyr	Gln	Ile	Ser	Asp	Ala	Leu	Glu	Tyr	Glu		
		275					280				285						
Phe	Pro	Ala	Asn	Ser	Phe	Asp	Tyr	Val	Phe	Ser	Arg	Asp	Gly	Leu	His		
		290				295					300						
His	Asn	Glu	Arg	Ile	Asp	Ile	Val	Met	Arg	Lys	Ile	Phe	His	Trp	Leu		
305					310					315					320		
Lys	Pro	Gly	Gly	Lys	Val	Leu	Ile	Thr	Val	Tyr	Gly	Met	Gly	His	Gly		
				325					330					335			
Thr	Leu	Ser	Ala	Lys	Phe	Gln	Ala	Tyr	Val	Glu	Lys	Arg	Lys	Tyr	Phe		
			340					345					350				
Leu	Lys	Thr	Leu	Glu	Glu	Met	Val	Glu	Ile	Thr	Glu	Ala	Ala	Gly	Phe		
		355				360						365					
Glu	Asn	Val	Gln	Gly	Thr	Asn	Leu	Thr	Lys	Arg	Phe	Arg	Asp	Ile	Leu		
		370				375					380						
Leu	Asp	Glu	Arg	Thr	Lys	Thr	Leu	Asn	Arg	Lys	Asn	Glu	Phe	Leu	Glu		
385					390					395					400		
Lys	Phe	Asp	Glu	Gly	Thr	Phe	Asn	Ser	Leu	Leu	Asn	Gly	Trp	Asn	Asp		
				405				410					415				
Lys	Ile	Gly	Phe	Ile	Asp	Asp	Asp	Asn	His	Asn	Trp	Asn	Gln	Ile	Phe		
			420					425					430				
Ala	Thr	Lys	Pro	Leu													
		435															

<210> 12

<211> 472

<212> PRT

<213> Meloidogyne javanica

<400> 12

Met	Ser	Ala	Leu	Ser	Cys	Glu	Leu	Ala	Tyr	Ala	Leu	Gln	Asn	His	Pro		
1				5				10					15				
Asn	Ala	Pro	Lys	Asn	Gly	Glu	Thr	Val	Leu	Leu	Leu	Ile	Asn	Asp	Gln		
		20						25				30					
Asp	Val	Asn	Glu	Arg	Asn	Leu	Asn	Ser	Asp	Leu	Arg	Asn	Leu	Phe	Glu		
		35				40						45					
Asp	Lys	Phe	Asn	Leu	Glu	Glu	Met	Asp	Ile	Gly	Glu	Leu	Ile	Asn	Ile		

50		55		60
Ser Glu Arg Leu Asp Lys Glu Asp Asn Asp Asn Glu Glu Glu Asn Leu				
65		70		75
Glu Thr Arg Phe Asp Ala Ala Ile Cys Ser Asn Leu Phe Ile Gly Gln				80
	85		90	
Gly Ile Val Asn Asp Arg His Arg Ile Ala Gln Val Leu Gly Leu Leu				95
	100		105	
Leu Arg Leu Ile Arg Thr Asp Gly Val Val Ile Ile Arg Glu Asn Leu				110
	115		120	
Lys Gln Trp Gly Ser Arg Ser Ile Ala Asp Leu Thr Lys Phe Leu Asp				125
	130		135	
Val Phe Ala Phe Arg Lys Gln Gln Asn Asn Gln Lys Gln Gln Gln Thr				140
145		150		155
Leu Gly Phe Asn Phe Tyr Gly Met Ser Gln Val Gln Asp Ser Ile Tyr				160
	165		170	
Ala His Ser Asn Phe Leu Asp Val Phe Trp Ser Leu Thr Thr Ala Ile				175
	180		185	
Glu Val Arg Leu Tyr Asp Asp Lys Leu Ala Thr Phe Arg Glu Phe Leu				190
	195		200	
Asp Lys Thr Gln Tyr Thr Glu Asp Asn Val Ala Ser Tyr Glu Trp Ile				205
	210		215	
Phe Gly Thr Asp Phe Ile Ser Pro Gly Gly Val Asn Glu Asn Arg Arg				220
225		230		235
Val Leu Lys Tyr Phe Arg His Leu Arg Pro Gly Gln Gln Met Leu Asp				240
	245		250	
Ile Gly Val Gly Ile Gly Gly Gly Ala Arg Gln Ala Ala Arg Glu Phe				255
	260		265	
Gly Leu Gln Val Leu Gly Cys Asp Leu Ser Ser Asn Met Ile Gln His				270
	275		280	
Ala Phe Asp Arg Asn Gln Arg Asp Lys Asp His Arg Val Glu Tyr Gln				285
	290		295	
Ile Ala Asp Ala Met Val Tyr Arg Tyr Glu Ser Asn Ala Phe Asp Ile				300
305		310		315
Val Phe Ser Arg Asp Cys Ile Gln His Ile Lys Asp Thr Lys Arg Leu				320
	325		330	
Phe Arg Asn Ile Tyr Thr Trp Leu Lys Pro Gly Gly Gln Val Leu Val				335
	340		345	
Thr Met Tyr Gly Lys Gly His Gly Val Leu Ser Pro Lys Phe His Glu				350
	355		360	
Tyr Val Arg Lys Arg Gln Tyr Ala Leu Lys Thr Leu Glu Glu Tyr Arg				365
	370		375	
Glu Ile Ala His Asn Val Gly Leu Thr Thr Ile Tyr Thr Glu Asn Met				380
385		390		395
Thr Lys Arg Leu Arg Glu Ile Leu Val Ile Glu Arg Asp Arg Ala Val				400
	405		410	
Glu Asn Lys Glu Glu Phe Ile Gln Lys Phe Ser Glu Lys Leu Tyr Ser				415
	420		425	
Lys Leu Ile Glu Gly Trp Ala Asp Lys Leu Gln Phe Ile Asp Glu Asp				430
	435		440	
Asn Gln Asn Trp Leu Leu Leu Arg Ala Glu Lys Pro Val His Pro His				445
	450		455	
Ala Tyr Leu Thr Glu Ala Gly Ala			460	
465		470		

<210> 13

<211> 1380

<212> DNA

<213> *Ascaris suum*

<400> 13

atgaccgaag	caattcgacg	ctcttctttc	aaaaatttct	ggtcgaaatt	ttcgcatcgt	60
tgtgataata	cagtaatgat	gttgaataaa	agcgccgatg	aatttgaagc	cgatgatcgt	120
gcagatatta	tatcttcatt	acccgatcta	catggcaagg	atattgtcga	tattggcgct	180
ggaattggac	gtttcacgac	aattttcgca	catgatgcac	gtcatgtact	atcatgcgat	240
tttatcgaaa	gtttcatggc	aaaaaataaa	gaacggaatg	cgcattttctc	taatatctct	300
tatcaggttg	gcgatgcggt	acattttacaa	ctcgatccaa	acagtgtaga	ccttgtgttc	360
acgaactggc	tcatgatgta	cctcagcgat	gatgaagtta	ttcgctttct	tctcaacgca	420
ctccgatggc	ttcgctctaa	cggctatttg	caccttcgag	agtcatgcag	ccaaccgtca	480
accgcacgag	ttggaggaac	gatgcataat	agtacagaga	taaatccaac	cagctatcga	540
ctatcctctg	agtatataaa	attgctaagg	aatattcggt	atcgtgaatt	agatggcaca	600
ttatttcgct	tcgaagtgcg	ttgggcttgt	tcagtgccca	cttatatcgt	cgtgcaaaat	660
aattggcgct	aagttcattg	gttaacgcaa	aaagttcgat	gcaacgatga	tgcgataatg	720
tctatcgaa	accttctcgg	acatttttagt	acactatgga	aggtggagca	acaaaagtgg	780
gatcgttacc	tcgacaatga	atcctattgc	tggactgatg	aggtgtttgg	ctatgcgtta	840
atgaaggaaa	cgattgagag	tatgcccgca	gtattggcat	ataatcctcg	caaattggcc	900
tatcatttgc	atataaatgc	gcacgcgatt	tctgagatgt	tacattgtaa	tgttgtatgg	960
aatgtggaga	taaatgaatt	tttctatcgg	acatcattaa	cgaaagcaaa	tcgcctcaaa	1020
gatcaacgag	ttcgatttgg	atggaatgct	acgcttgaat	cgtcgctgaa	ttattggaaa	1080
gaacgtgggtg	ctctcttcga	tatttttatc	gccactgaat	ttttcaccga	tctcgatgaa	1140
agtaccatcg	ataagctctc	cgtggtatta	aaagcggatg	cacctcta	tctgctggag	1200
ccatttgacg	aatcagctta	tgatgagaaa	tacatcatga	agttgttatc	acgttatcaa	1260
caaatttcta	tcgaggatat	cactgagatg	tgcacagaag	cgattcataa	atatctaagc	1320
gaaagagatt	tagagaataa	tattggaaca	aaagtatgga	aattaataaa	agcgcatatg	1380

<210> 14

<211> 1380

<212> DNA

<213> *Haemonchus contortus*

<400> 14

atgacggctg	aggtgcgacg	ggattccttc	aagacgttct	gggacaagta	ctcagataaa	60
cccgaacta	attcgatgat	gctcaaccag	actgcacaag	atctggaagc	tagcgataga	120
gcagatata	tctccagcct	acctcaccta	accaacaaag	acgtggctga	tattggcgct	180
ggaatcgggc	gcttcactac	tgtgctagca	gaaactgctc	gatgggttct	ttcaacggat	240
ttcatcgaat	cgttcacatga	aaaaaatcaa	gaacgaaatg	ctcacatggg	taacatcagt	300
tatcaaatag	gagacgcagt	ccatttgcaa	atggacgaga	aaagcgtgga	tctcggtttt	360
acgaattggt	tgatgatgta	tctctccgat	cgtgaagtca	ttgaatttct	gctgaatgct	420
atgcgatggt	tgagagcggg	cggatacatt	catctcagag	aaagctgctc	cgagccaagc	480
acgggcccgc	tgaagaccgc	cacaatgcac	tcagccggtg	acgccaaacc	aacacattac	540
cgtttctcat	cgtgtatat	caagcttctt	cgagcaatcc	gatacgggga	cagtgatgga	600
aaaatgtgga	aatttgatgt	gcagtggagc	tgctcgggtg	ccacctacat	acggaggtgc	660
aataactggc	gtcaagtgca	ttggttgacg	aagaaggtag	cggcagttgg	cgacgaagag	720
acttcagtcg	acgatttgct	caacttggtc	agccagatct	ggccagccga	acaaaagacg	780
tgggatgaaa	aactagacaa	tgaaaaatac	agttggactg	ataagatatt	ctcgaatgcg	840
atcgatgatg	aagtgggtgcc	aaagaacagt	accgcctatg	tcttcacacc	aaggcaacga	900
tcccccttct	tgcacgtcaa	ctcgcacctt	ttggcagaga	agttcacatg	caatgtatgg	960
aatgttgaaa	caaaagagta	tttgtatcgt	acttcggtga	cgaaggcaaa	caaccagaag	1020
gaccaacgag	tgcgcttcgg	ttggaacgag	tccttgtctt	cgcccatcga	ctactggaat	1080
cagagggacg	cttcatttga	ctgcatggta	gcaactgaac	ttctcgcgac	ttgtgatgat	1140
gagagcgtaa	agagtattgc	gagcattatg	aaaccagaag	cgaagggtgg	gctcctcgaa	1200
ccagttagcg	gaattgacga	gacgtccggt	aggcagcgaa	tgactacttg	tgggttcaaa	1260
aacattacca	tcgtcgatgt	tacacaggag	tccttgaacg	ccgaggtttc	tttcattaa	1320
gaccacaact	tggacgtcga	actctctggt	tgtaattacc	tactgatcaa	ggcttcactt	1380

<210> 15
 <211> 1371
 <212> DNA
 <213> Meloidogyne incognita

<400> 15
 atgcggtatgc gactggagca cgaggacact gacatggact ggaggcaaat ttatcactcc 60
 ttttggaaca aattttccga tagggctgac aatacatcca tgctttttaa tgcggatgct 120
 gataaatttg aagctcttga cagagccgaa attatcggaa tgttgccctc ttttaaaaat 180
 aaatttgttg tggatattgg ggcgggtatt ggaagattca caacagaatt tgccaaaaag 240
 gcaagagaag tggctctcaac agattttgta gctagcttta tgcgagaaaa tcgggaaaca 300
 aatatagcct ttaataacat tgaatggaga gttgggtgatg ctgtaagatt agattttgaa 360
 gagggggagta ttgatatagt ctttaccaat tggcttttga tgtatttagt ggatgaagaa 420
 gttgttcaat ttttgattaa tgccattaaa tggctcaggc ctggcgggta tttacatttg 480
 agagagtcct gctctgaacc tagcagcaaa aaatctaata attcgctaca ttccaattcg 540
 gatagtatca atccaactaa atatcgcttt tcatccgcat atattcaatt gctcaaatca 600
 attaatttta aaagcggaga tggaaaccgtt tgggggttta aaatccactg ggctagctct 660
 gttaattgtt atattcaaaa aaatgcaaat tggagacaag tgcattgggt agtaagcaag 720
 gttcctaaaa aggaaaaaatt tatgccaaat ttgggtacac tgcttggaga gaagtggcct 780
 gaagagcaga aggaatggga caataaactt gacttggctt tgaatgagaa tcagaatatc 840
 acctcaactc tagccagtta tcttttatct agtgggattg gaacaaattc agttatactt 900
 gttttcgact tgagaaatag tgaaaatcag cccagtatta atgttcacac attggctaac 960
 agattaaatt caaatatttg gtctgtttcc ctcaatcctt tctgcttcg tcatcatta 1020
 acccttgcta ataataacca agatcgacgg attagacact cttggcatga ggatattgaa 1080
 agcgctttcc actttttggg tgaacaaata tccggcaaaag agaaaaatat cagcagatta 1140
 tttgatgtga ttattggtat tggtttgta gaaaaaatta aaaaaatgaa ggacgctagc 1200
 gagaaagttg agaaaatcct tggccgttat ttgttaagta ttgaaacagg cgaaggagat 1260
 gatatacgaa aggaaaaaaa gaatgaggac attgtagaat atttcccatc agaactattt 1320
 acaaaacaaa caatagaatt caaagcagat aatggattta atcagcttga t 1371

<210> 16
 <211> 1407
 <212> DNA
 <213> Strongyloides stercoralis

<400> 16
 atggagggtg aaaatgatag acagaatttt cttgaatatt ggagacaatt tggcaatata 60
 gctaatatca atggatgat gcttaatgct aatgcttctt taattgagaa aaatgatagg 120
 catgatgtat gtctattact tcctgattta aaaggaaaaa ctgttttaga tgctgggtgct 180
 ggaattggac gttttactgc tgaacttgct gaaagggtcg aaaaagtta tgcatacagat 240
 tttatttctg aatatgttac taaattacaa gaacttagtg ctgaagcgtt aaaaaatgga 300
 aaaattattg atgttacagt agcagatgct acatgtcttt cttatccaga gaatagttat 360
 ttccttgttt ttactaattg gttgtttatg tattttaata atactgaatg tgtacgtttt 420
 actgtaaatg cattaataatg gttagaagaa ggtggatatt ttaaattaag agaatacatg 480
 tctgaacct caacaagaag agttggaaat agaaatgaaa cttctcttca tgctgccgtt 540
 caatcaaatc caactgaata tagattttca tctgtttatc ttaaattaat tgaagcagct 600
 agatacgttg attcaaataa tcaaaaatgg aaattcgaaa tagaaatttg tggttctatt 660
 ccaacataca ttttaaatgg taatacttgg agacaagtac agttaattgc taaaaaagta 720
 aaagcagatg ataatgatgt tgttttatcc caagatgagt tgaaaaattt aatgactaat 780
 gattggataa tggaaacaaa aaagactgat tctattgttg atggtagagt acaatatttt 840
 gctgataaaa tttttgctaa tgaattatca aatattgata tgactaatac tgaatccatt 900
 tcatcaatat ttgttttcca atcttcattt aatccatggg acaaaagaat tttcccattt 960
 tcttttagcat caaataaata ttgccatgtc tggacaaatg agggtaatcg tgaacttttt 1020
 agatgttcat taacttcagc taatgaagaa agaaatattg gaatgttttt tacctattca 1080
 aaagacaatg tttttaatgc cttagattac gttaaaaaaa gaaacttttt attaaacagt 1140
 tttctagcta ttgactattt aaataatcat gaagttaatt ttattgaatc atttaataat 1200
 attgcttctc aagatgctaa aattctcctt cttgaatcat tttcaaatga ggatgaaaaa 1260

aattttaa	taagtaa	taataag	tacacag	agtgcg	agaaaac	1320
cataatga	ttaaaa	acatca	gaagaa	tatgtg	tacatcg	1380
aatggatg	ttatca	aaac				1407

<210> 17
 <211> 1311
 <212> DNA
 <213> *Ascaris suum*

atgcctgc	cagagcgt	actaatc	gcattatt	acgttac	gaaagat	60
cttacaag	tactcttg	cacctctg	caatcag	aaagca	atcactg	120
gcactctt	aggacag	aattaac	accatcg	agcgtct	gggattg	180
agcactcg	ctgacgc	tgacgcc	atcagca	aattgat	cgagaac	240
ttaatca	aaccatc	tctcgat	ttcgtcg	cggctct	agaaga	300
gtactcat	ttcgtga	cctaaat	tggtctg	gtgaga	cgctcag	360
acgcattt	ttgatct	tccaaca	ctgaacg	ttacgat	cttcaa	420
tattcact	agcaagt	tgccat	cataccg	gaaactt	ggatgtc	480
tggaat	ggaaaga	tttcga	ctggacg	acaaaaa	aaaaac	540
cgtgattt	tcgatac	gcaatac	gacgag	tacgtgc	tgaatgg	600
ttcggcg	acttcat	tccgggc	tatgacg	acttaga	tctgaag	660
ttcggtg	taaaacc	ttgtaaa	ctcgaca	gtgttgg	cggtgg	720
gcccgcc	ctgctag	attcgga	ctggttc	gtatgg	tagtgc	780
atgcttt	tagcgat	tgcctac	aatgaga	acactcg	tcgttat	840
atatccg	ctctcga	tgagttt	gccaa	ttgatt	tttcagt	900
gacggtt	atcataa	gcgcacg	atcgtaa	gaaagatt	ccactgg	960
aaacctg	ggaaagt	catcacg	tatggc	gccatgg	attaagc	1020
aaattcca	cctatgt	aaagagg	tattttc	agacact	agagatg	1080
gagataa	aagctgc	attcgaa	gtgcaag	caaacct	caagcg	1140
cgcgata	tgctcga	gcggaca	acgctga	gaaaaac	attcctt	1200
aaattcga	aaggaac	caacagc	ttgaacg	ggaatga	gatcggt	1260
atcgacg	ataacc	ttggaat	atcttcg	caaaacc	t	1311

<210> 18
 <211> 1416
 <212> DNA
 <213> *Meloidogyne javanica*

atgagtgc	tatctt	attagct	gcattt	atcatcc	tgcaccc	60
aatggcg	ctgttct	attaatta	gatcaag	ttaatga	gaatttaa	120
tctgatc	gaaattt	cgaagata	tttaatt	aggagat	tattggag	180
ttgataa	tatcaga	tttagata	gaagata	acaacga	agagaatt	240
gaaacac	ttgatgc	tatttgct	aatttat	ttggaca	aattgtaa	300
gaccgtc	gtattgc	agtattag	ttacttc	gtttaata	gacagat	360
gttgta	ttagaga	tctaaag	tggttct	gttcaat	tgatttaa	420
aaattt	atgtttt	ttttcg	caacaaa	atcaaaa	acaacaa	480
cttggat	attttat	aatgagc	gtacagg	gcatttat	acattcta	540
tttcttg	tttttgg	cttaaca	gctattg	ttagatt	tgatgata	600
ttagcta	ttaggga	tttgata	acacagt	ctgagg	cgttgcta	660
tatgagt	tatttgg	agatttat	agccagg	gagtga	aaataga	720
gtactaaa	atttccg	tttacgt	ggacaac	tgcttg	tggtgtg	780
attggtg	gagctag	agctgcta	gagtttg	ttcaagt	tggttgt	840
ctttctt	atatgat	acatgct	gatcgta	aacgtga	agatcat	900
gttgaat	aaattgc	tgctatg	tatcgtt	aatcta	ttttgat	960
gtatttag	gagattg	tcaacat	aaagata	aaagatt	tagaaat	1020
tatactt	ttaaacc	tggaacg	cttgtt	tgtatgg	aggacat	1080

```

gttctctcgc caaaatttca tgaatatgtt cgtaaacggc aatatgcact aaaaacttta 1140
gaagaatata gagaaattgc tcataatgtt ggtttaacaa ctatttacac agaaaatatg 1200
actaaacggt tgagagaaat tttagtaatt gaacgtgata gagcagttga aaataaagaa 1260
gaatttattc aaaaatttag tgaaaaactt tattcaaaat taattgaggg ttgggcagat 1320
aaattacaat ttattgatga agataaccaa aattggttgt tacttcgtgc ggagaaaccg 1380
gtgcatccgc atgcttattt aactgaagct ggagct 1416

```

<210> 19

<211> 475

<212> PRT

<213> *Caenorhabditis elegans*

<400> 19

```

Met Ser Thr Asp Gln Gln Ser Ser Val Glu Asp Gln Thr Val Ala Met
 1          5          10          15
Val Asn Val Arg Arg Ala Asn Phe Lys Ser Phe Trp Asp Lys Tyr Ser
 20          25          30
Asp Lys Pro Asp Thr Asn Ser Met Met Leu Asn His Ser Ala Glu Glu
 35          40          45
Leu Glu Ser Ser Asp Arg Ala Asp Ile Leu Ala Ser Leu Pro Leu Leu
 50          55          60
His Asn Lys Asp Val Val Asp Ile Gly Ala Gly Ile Gly Arg Phe Thr
 65          70          75          80
Thr Val Leu Ala Glu Thr Ala Arg Trp Val Leu Ser Thr Asp Phe Ile
 85          90          95
Asp Ser Phe Ile Lys Lys Asn Gln Glu Arg Asn Ala His Leu Gly Asn
100          105          110
Ile Asn Tyr Gln Val Gly Asp Ala Val Gly Leu Lys Met Glu Ser Asn
115          120          125
Ser Val Asp Leu Val Phe Thr Asn Trp Leu Met Met Tyr Leu Ser Asp
130          135          140
Glu Glu Thr Val Glu Phe Ile Phe Asn Cys Met Arg Trp Leu Arg Ser
145          150          155          160
His Gly Ile Val His Leu Arg Glu Ser Cys Ser Glu Pro Ser Thr Gly
165          170          175
Arg Ser Lys Ala Lys Ser Met His Asp Thr Ala Asn Ala Asn Pro Thr
180          185          190
His Tyr Arg Phe Ser Ser Leu Tyr Ile Asn Leu Leu Arg Ala Ile Arg
195          200          205
Tyr Arg Asp Val Asp Asn Lys Leu Trp Arg Phe Asn Val Gln Trp Ser
210          215          220
Cys Ser Val Pro Thr Tyr Ile Lys Arg Ser Asn Asn Trp Arg Gln Val
225          230          235          240
His Trp Leu Ala Glu Lys Val Pro Ala Glu Asp Gly Ala Lys Gly Thr
245          250          255
Ser Phe Asn Glu Leu Val Glu Leu Ile Lys Asn Thr Trp Gln Asn Glu
260          265          270
Gln Glu Ala Trp Asp Ala Lys Leu Asp Asp Glu Lys Tyr Val Trp Thr
275          280          285
Asp Lys Val Phe Ser Ser Ala Leu Thr Ser Leu Pro Ser Asn Ser Thr
290          295          300
Phe Phe Leu Tyr Thr Pro Arg Thr Val Ser Pro Tyr Cys His Ile Asn
305          310          315          320
Ala His Thr Leu Ala Glu Thr Phe Asn Ala Asn Val Trp Asn Thr Glu
325          330          335
Ile Ile Pro Glu Tyr Tyr Arg Thr Ser Leu Thr Lys Ser Asn Asn Leu
340          345          350

```

```

Lys Asp Gln Arg Val Arg Phe Gly Trp Asn Gln Ser Leu Thr Asp Ser
    355                      360                      365
Val Thr Tyr Trp Gln Gln Lys Asp Ala Leu Phe Asp Val Phe Val Ala
    370                      375                      380
Thr Glu Phe Leu Ser Thr Val Asp Asp Glu Thr Ile Arg Gln Leu Pro
    385                      390                      395                      400
Asn Val Met Ser Asp Gly Ala Lys Phe Ile Thr Leu Glu Pro Val Asp
    405                      410                      415
Glu Val Asn Glu Ala Glu Met Lys Gln Arg Ile Gln Glu Leu Gly Tyr
    420                      425                      430
Thr Leu Lys Ser Phe Thr Asp Val Thr Asp Gln Cys Ile Glu Ala Gln
    435                      440                      445
Glu Gln Tyr Phe Lys Asp His Glu Gln Leu Arg Asp Glu Lys Val Ile
    450                      455                      460
Arg Lys Asn Trp Val Leu Leu Glu Leu Thr His
    465                      470                      475

```

<210> 20

<211> 484

<212> PRT

<213> Caenorhabditis elegans

<400> 20

```

Met Asp Arg Tyr Ser Pro Tyr Asp Lys Thr Val Phe Leu Ile Phe Cys
  1          5          10          15
Thr Ala Tyr Ile Leu Gln Lys Ala Met Val Asn Val Arg Arg Ala Asn
    20          25          30
Phe Lys Ser Phe Trp Asp Lys Tyr Ser Asp Lys Pro Asp Thr Asn Ser
    35          40          45
Met Met Leu Asn His Ser Ala Glu Glu Leu Glu Ser Ser Asp Arg Ala
    50          55          60
Asp Ile Leu Ala Ser Leu Pro Leu Leu His Asn Lys Asp Val Val Asp
    65          70          75          80
Ile Gly Ala Gly Ile Gly Arg Phe Thr Thr Val Leu Ala Glu Thr Ala
    85          90          95
Arg Trp Val Leu Ser Thr Asp Phe Ile Asp Ser Phe Ile Lys Lys Asn
    100         105         110
Gln Glu Arg Asn Ala His Leu Gly Asn Ile Asn Tyr Gln Val Gly Asp
    115         120         125
Ala Val Gly Leu Lys Met Glu Ser Asn Ser Val Asp Leu Val Phe Thr
    130         135         140
Asn Trp Leu Met Met Tyr Leu Ser Asp Glu Glu Thr Val Glu Phe Ile
    145         150         155         160
Phe Asn Cys Met Arg Trp Leu Arg Ser His Gly Ile Val His Leu Arg
    165         170         175
Glu Ser Cys Ser Glu Pro Ser Thr Gly Arg Ser Lys Ala Lys Ser Met
    180         185         190
His Asp Thr Ala Asn Ala Asn Pro Thr His Tyr Arg Phe Ser Ser Leu
    195         200         205
Tyr Ile Asn Leu Leu Arg Ala Ile Arg Tyr Arg Asp Val Asp Asn Lys
    210         215         220
Leu Trp Arg Phe Asn Val Gln Trp Ser Cys Ser Val Pro Thr Tyr Ile
    225         230         235         240
Lys Arg Ser Asn Asn Trp Arg Gln Val His Trp Leu Ala Glu Lys Val
    245         250         255
Pro Ala Glu Asp Gly Ala Lys Gly Thr Ser Phe Asn Glu Leu Val Glu
    260         265         270

```

[illegible]

<210> 21

<211> 437

<212> PRT

<213> Caenorhabditis elegans

<400> 21

Met	Ser	Ser	Leu	Ser	Ile	Pro	Arg	Gln	Ser	Leu	Tyr	Tyr	Val	Asn	Lys
1				5					10					15	
Val	Thr	Glu	Gly	Arg	Ser	Val	Ser	Asn	Val	Gln	Val	Val	Ser	Pro	Cys
			20					25					30		
Gln	Lys	Gln	Gly	Gln	Thr	Tyr	Val	Thr	Ala	Phe	Thr	Pro	Leu	Thr	Ser
			35				40					45			
Asn	Val	Gln	Val	His	Thr	Ser	Leu	Glu	Gln	Leu	Ser	Thr	Ile	Arg	Asn
			50			55					60				
Ala	Asp	Val	Leu	Ile	Phe	Asn	Asn	Ala	Leu	Ser	Gln	Ile	Ile	Thr	Asn
65					70					75				80	
Ala	Asp	Leu	Leu	Thr	Asp	Phe	Leu	Lys	Asn	Ala	Thr	Asn	Ala	Thr	Ala
				85					90					95	
Ile	Gly	Gly	Thr	Val	Ile	Ile	Arg	Glu	Asp	Leu	Lys	Asp	Cys	Ser	Asp
			100					105					110		
Lys	Arg	Gln	Val	Ala	Arg	Leu	Thr	Asp	Tyr	Phe	Asp	Val	Phe	Arg	Thr
		115					120				125				
Thr	Asp	Ser	Asp	Gly	Asn	Asn	Thr	Gly	Leu	Asp	Leu	Tyr	Thr	Val	Asp
		130				135					140				
Gln	Val	Glu	His	Ser	Asn	Tyr	Val	Glu	Gln	Asn	Phe	Leu	Asp	Phe	Ile
145					150					155					160
Phe	Val	Phe	Arg	Lys	Lys	Val	Phe	Ala	Pro	Thr	Thr	Asp	Ala	Thr	Ile
				165					170					175	

Thr Phe Arg Asp Phe Leu Asp Lys Thr Gln Tyr Thr Asn Thr Gly Ile
 180 185 190
 Asp Ala Tyr Glu Trp Met Phe Gly Val Asn Phe Ile Ser Pro Gly Gly
 195 200 205
 Tyr Asp Glu Asn Leu Lys Ile Ile Lys Arg Phe Gly Asp Phe Lys Pro
 210 215 220
 Gly Gln Thr Met Leu Asp Ile Gly Val Gly Ile Gly Gly Ala Arg
 225 230 235 240
 Gln Val Ala Asp Glu Phe Gly Val His Val His Gly Ile Asp Leu Ser
 245 250 255
 Ser Asn Met Leu Ala Ile Ala Leu Glu Arg Leu His Glu Glu Lys Asp
 260 265 270
 Ser Arg Val Lys Tyr Ser Ile Thr Asp Ala Leu Val Tyr Gln Phe Glu
 275 280 285
 Asp Asn Ser Phe Asp Tyr Val Phe Ser Arg Asp Cys Ile Gln His Ile
 290 295 300
 Pro Asp Thr Glu Lys Leu Phe Ser Arg Ile Tyr Lys Ala Leu Lys Pro
 305 310 315 320
 Gly Gly Lys Val Leu Ile Thr Met Tyr Gly Lys Gly Tyr Gly Glu Gln
 325 330 335
 Ser Asp Lys Phe Lys Thr Tyr Val Ala Gln Arg Ala Tyr Phe Leu Lys
 340 345 350
 Asn Leu Lys Glu Ile Ala Asp Ile Ala Asn Lys Thr Gly Phe Val Asn
 355 360 365
 Val Gln Thr Glu Asn Met Thr Pro Arg Phe Lys Glu Ile Leu Leu Glu
 370 375 380
 Glu Arg Gly His Leu Glu Gln Asn Glu Ala Glu Phe Met Ser Lys Phe
 385 390 395 400
 Thr Gln Arg Glu Arg Asp Ser Leu Ile Ser Gly Trp Thr Asp Lys Leu
 405 410 415
 Gly Tyr Ile Glu Lys Asp Asn His Asn Trp Asn Phe Phe Leu Ala Gln
 420 425 430
 Lys Pro Phe Pro Lys
 435

<210> 22

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 22

gtaatacgac tcactatagg gc

22

<210> 23

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 23

aattaaccct cactaaaggg

20

<210> 24
 <211> 19
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<400> 24
 gatttaggtg acactatag

19

<210> 25
 <211> 17
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<400> 25
 atgcctgcgg cagagcg

17

<210> 26
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<400> 26
 ggccacgcgt cgactagtac

20

<210> 27
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<400> 27
 gggtttaatt acccaagttt ga

22

<210> 28
 <211> 37
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<400> 28
 ggccacgcgt cgactagtac tttttttttt tttttttt

37

<210> 29
 <211> 20

<212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<400> 29
 atggtgaacg ttcgtcgtgc 20

<210> 30
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<400> 30
 catacgtatt tctcatcatc 20

<210> 31
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<400> 31
 ccagattatt accaacgccg 20

<210> 32
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<400> 32
 tgaacttaca tagattcttg 20

<210> 33
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

<400> 33
 gcaattgaat atatgcggat g 21

<210> 34
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> primer

 <400> 34
 ctatccgaat tggaatgtag cg 22

 <210> 35
 <211> 21
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> primer

 <400> 35
 cattccaatt cggatagtat c 21

 <210> 36
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> primer

 <400> 36
 cgactggagc acgaggacac tga 23

 <210> 37
 <211> 26
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> primer

 <400> 37
 ggacactgac atggactgaa ggagta 26

 <210> 38
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> primer

 <400> 38
 caacggattt catcgaatcg 20

 <210> 39
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>

<223> primer

<400> 39

ccacgtcttt gttgggtagg

20

<210> 40

<211> 44

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 40

cgacuggagc acgaggacac ugacauggac ugaaggagua gaaa

44

<210> 41

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 41

ggttttaacc cagtatctca ag

22

<210> 42

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 42

gcatcagcaa tttgatattc

20

<210> 43

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 43

ccgcaatatc cagaagac

18

<210> 44

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> primer

<400> 44
cagatctcga tacattcg 18

<210> 45
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 45
gttctgaacc atcaacaag 19

<210> 46
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 46
gctgaagtta atgaacatc 19